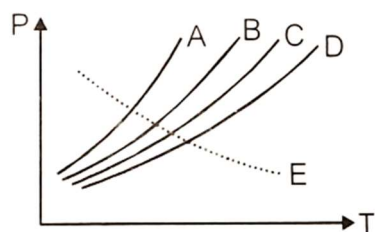


**Unit : Solutions****DPP-04**

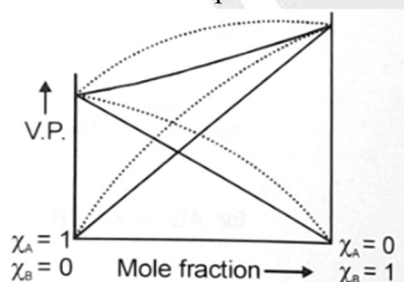
1. Among the following that forms an ideal solution?
(A) water and methanol
(B) acetone and ethanol
(C) benzene and toluene
(D) water and HCl
2. On mixing 10 mL of acetone with 40 ml of chloroform the total volume of the solution is
(A) < 50 mL
(B) > 50 mL
(C) = 50 mL
(D) cannot be predicted
3. The mixture of *n*-hexane and *n*-heptane is an example of
(A) ideal solution
(B) non-ideal solution
(C) dilute solution
(D) none
4. Which condition is not satisfied by an ideal solution
(A) $\Delta H_{\text{mixing}} = 0$
(B) $\Delta V_{\text{mixing}} = 0$
(C) $\Delta S_{\text{mixing}} = 0$
(D) Obeys Raoult's law
5. Among the following, that does not form an ideal solution is:
(A) C_6H_6 and $\text{C}_6\text{H}_5\text{CH}_3$
(B) $\text{C}_2\text{H}_5\text{Cl}$ and $\text{C}_6\text{H}_5\text{OH}$
(C) $\text{C}_6\text{H}_5\text{Cl}$ and $\text{C}_6\text{H}_5\text{Br}$
(D) $\text{C}_2\text{H}_5\text{Br}$ and $\text{C}_2\text{H}_5\text{I}$
6. An azeotropic mixture of two liquids has b.p. lower than either of them when it :-
(A) shows a (+ve) deviation from Raoult's law
(B) shows no deviation from Raoult's law
(C) shows (+ve) deviation from Henry's law
(D) shows (-ve) deviation from Henry's law
7. A solution of acetone in ethanol
(A) shows a positive deviation from Raoult's law
(B) behaves like a near ideal solution
(C) Obeys Raoult's law
(D) shows a negative deviation from Raoult's law
8. Which one is not equal to zero for an ideal solution :-
(A) ΔS_{mix}
(B) ΔV_{mix}
(C) $\Delta P = P_{\text{observed}} - P_{\text{Raoult}}$
(D) ΔH_{mix}
9. Azeotropic mixture are :
(A) Mixture of two solids
(B) Those which boil at different temperatures
(C) Those which can be fractionally distilled
(D) Constant boiling mixtures
10. An azeotropic mixture of two liquids boil at a lower temperature than either of them when
(A) It is saturated
(B) It does not deviate from Raoult's law
(C) It shows negative deviation from Raoult's law
(D) It shows positive deviation from Raoult's law

11. Vapour pressure diagram of some liquids plotted against temperature are shown below



Most volatile liquid

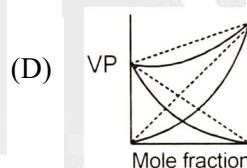
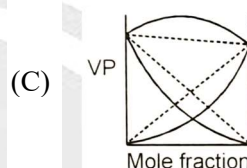
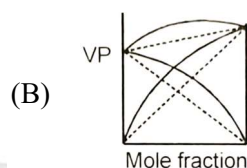
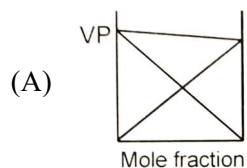
- (1) A (3) C
(2) B (4) D
12. A mixture of two liquids A and B having boiling point of A is 70°C , and boiling point of B is 100°C distills at 101.2°C as single liquid, hence this mixture is
- (A) Ideal solution
(B) Non ideal solution showing +ve deviation
(C) Non ideal solution showing -ve deviation
(D) Immiscible solution
13. Vapour phase diagram for a solution is given below if dotted line represents deviation



Correct observation for this solution

- (A) $\Delta H_{\text{mix}} : +\text{ve}$ (B) $\Delta S_{\text{mix}} : +\text{ve}$
(C) $\Delta V_{\text{mix}} : +\text{ve}$ (D) All of these

14. If $\text{C}_2\text{H}_5\text{OH}$ and H_2O solution is example of non-ideal solution then which graphical representation is correct?



15. The boiling points of C_6H_6 , CH_3OH , $\text{C}_6\text{H}_5\text{NH}_2$ and $\text{C}_6\text{H}_5\text{NO}_2$ are 80°C , 65°C , 184°C and 212°C respectively. Which of the following will have highest vapour pressure at room temperature?

- (A) C_6H_6 (B) CH_3OH
(C) $\text{C}_6\text{H}_5\text{NH}_2$ (D) $\text{C}_6\text{H}_5\text{NO}_2$



ANSWERS

1. (C)
2. (A)
3. (A)
4. (C)
5. (B)
6. (A)
7. (A)
8. (A)
9. (D)
10. (D)
11. (A)
12. (C)
13. (D)
14. (B)
15. (B)



***Note* - If you have any query/issue**

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